INTRODUCTION

The GV-NVR (Network Video Recorder) records video and audio data over TCP/IP networks. With up to 32 channels of pure IP surveillance, the GV-NVR offers the same functions as GV-Series Surveillance System. From monitoring features to video analytics as well as integration with LPR, POS/ATM and Access Control systems, it stands as one of the most comprehensive IP surveillance software in the security market.

Combined with GeoVision IP camera, the GV-NVR takes advantage of a better image quality thanks to the progressive scan technology and allows advanced video features such as Picture-In-Picture and Picture-And-Picture. Compatibility with a wide range of third party IP cameras makes the GV-NVR the ultimate solution for pure IP surveillance environments.

Supported IP Camera List

VERSION 8.5 KEY FEATURES

Built upon comprehensive and easy-to-integrate hardware and supporting technologies, the GV-Surveillance and Video Management Platform is the core system platform that provides performance-optimized video monitoring and various advanced video analytics/control features to support many of enterprise's management functions. It is a scalable, extensible platform that can be customized and seamlessly integrated with other security system applications, such as:

1. POS/ ATM/ EAS for loss prevention
2. Access Control for building automation
3. License Plate Recognition system for law enforcement, entrance control and revenue collection
4. Megapixel IP devices for critical area and mobile object monitoring
5. Central Monitoring stations for high profile security areas in commercial, industrial and residential markets

In addition the remote management WebCam and versatile storage system framework offer high scalability and extensibility for future integration with other functions or systems at remote sites.

VERSION 8.5 NEW FEATURES

- **Main System:**
  - Support for new GV-Video Capture Cards: GV-600B, GV-650B, GV-800B, GV-900A and GV-4008A
  - AAC 16 kHz / 16 bit audio codec
  - Object tracking in fisheye view
  - Support for recording in standard type of H.264, MPEG4 and JPEG codec
  - Live view buffer and frame rate control
  - Wide Angle Lens Dewarping
  - Support for new GeoVision IP devices: GV-BL120D, GV-BL130D, GV-BL220D, GV-BL320D, GV-BX120DW, GV-BX130D, GV-BX520D, GV-CB120, GV-CB220, GV-FD120D, GV-FD130D, GV-FD220D, GV-FD320D, GV-FE420 / 421, GV-FE520 / 521, GV-MFD120, GV-MFD130, GV-MFD220, GV-MFD320, GV-MFD520, GV-VD120D, GV-VD220D, GV-VD320D, GV-Compact DVR V3 (4CH), GV-Compact DVR V3 (8CH) and GV-VS04H
  - Support for ACTi TCM-7811
  - Support for more Arecont Vision IP cameras: AV10005, AV2825, AV1325, AV5125DN, AV5115, AV3115 and AV3125
  - Support for more AXIS IP cameras: M3113 and P5532
  - Support for more D-Link IP cameras: DCS-2102, DCS-3410 and DCS-3430
  - Support for HUNT IP cameras: HLC-15M, HLC-81M and HLC-84M
  - Support for more Pelco IP cameras: D5118, IM10C10 and IX10DN
  - Support for Samsung SNB-3000
  - Support for Sony SNC-CH120
  - Support for TAKEX IP cameras (only for Japan market): NCC-130P, NBC-130P and NSC-130
- **ViewLog / Single Player**
  - Support for saving dewarped fisheye view in AVI format
  - Wide Angle Lens Dewarping
- **Authentication Server**
  - Support for Windows Active Directory
- **Control Center**
  - Multiple Screen with which a video wall can be established
- **GIS**
  - Three recording modes available for Mobile Hosts: manual recording, record by event and record upon input trigger
  - User-defined storage groups and recycle settings
- **New Application**
  - Mobile Server for accessing GV-System using RTSP protocols

Improved:

- **Main System:**
  - Enhanced H.264 decoding and support for GPU decoding
  - Support for configuration change without stopping recording
  - Added display ratio adjustment for fisheye view
  - Support for connection with POS devices using OPOS and TCP/IP protocol
  - Added advanced video attributes adjustment for GV-IP cameras
  - Automatic setup of IP devices within an IP range
  - Support for PTZ functions through ONVIF
  - Added environmental change filter to reduce false alarm in Advanced Motion Detection
  - Added sensitivity adjustment in Face Detection
  - Added noise tolerance adjustment in Object Index and Face Detection
  - Added snapshot frequency for Video Snapshot
  - Support for dual stream in GV-IP Speed Dome
  - Added auto iris to PTZ control panel for GV-IP Speed Dome
- **ViewLog**
  - Enhanced multi-channel playback to provide higher frame rates
  - Added Direct Merge to save videos in AVI format at a faster speed
  - Added face mask function to detect and blur human faces for privacy purposes
  - Support for backup to blu-ray disc using OS-burning
  - Display of average vehicle speed when playing back video recorded by GV-Compact DVR V3

- **Center V2**
  - Quick insertion of subscriber name and ID to e-mail and SMS notification messages
  - Event category tabs on the main window (only for Pro version)
  - A configurable category tab on the main window, showing the events customized for the tab (only for Pro version)
  - Alert level feature with which events of different alert levels are distinguished by color (only for Pro version)
  - Support for GV-I/O Boxes of Ethernet module connected to the Center V2 Server through the network
  - Image size adjustment on the EZ player window with which source images can be adjusted to fit the EZ player window
  - Support for Storage Group, and variable recycle size which increases when the number of connected channels increases
  - Wide Angle Lens Dewarping for correcting image distortion

- **Dispatch Server**
  - Manual dispatch of subscribers to any online Center V2 Servers
  - Support for automatic distribution of a subscriber to a user-defined Center V2 Server whenever this server is online

- **Dispatch Server**
  - Device tree, showing subscribers, their devices and status on the main window
  - A configurable category tab on the main window, showing the events customized for the tab
  - Alert level feature with which events of different alert levels are distinguished by color on the main window
  - Temperature alarm to notify the operator when the subscriber (most GV-IP Cameras and GV-System with GV-3008 Card) has reached or exceeded the specified temperature
  - Notification messages for a lost or undetectable device, recycling of GV-System recordings, login change of GV-System subscribers, and POS connection status

- **VSM**
  - Device tree, showing subscribers, their devices and status on the main window
  - A configurable category tab on the main window, showing the events customized for the tab
  - Alert level feature with which events of different alert levels are distinguished by color on the main window
  - Temperature alarm to notify the operator when the subscriber (most GV-IP Cameras and GV-System with GV-3008 Card) has reached or exceeded the specified temperature
  - Notification messages for a lost or undetectable device, recycling of GV-System recordings, login change of GV-System subscribers, and POS connection status

- **Control Center**
  - Live view display on VMD window when an input is triggered and/or a specified temperature is reached or exceeded
  - Wide Angle Lens Dewarping for correcting image distortion
  - Search feature which queries for the events occurred at DVR hosts under the criteria defined
  - User-configurable monitor display position for each matrix

- **Backup Server**
  - Recycle settings for Backup Server independent from those for GV-System

- **iPod / iPad Application**
  - GV-Eye HD V1.0 and GV-Eye now supports 1.3 megapixel live view

FULL FEATURE LIST

Monitoring

- Support for 32 channels in GV-System and CMS applications
- Support for GPU decoding
- Digital Matrix, support maximum 8 monitors display
- Higher UI Screen Resolutions (1920 x 1200, 1680 x 1050, 1600 x 1200, 1280 x 800, 1440 x 900, 1920 x 1080 and 1280 x 1024)
- Noise Tolerance for Motion Detection
- Report Generator
- Support for Cardholder data from GV-Video Server
- Touch Screen Support
- Full screen view
- Dual display operation for live monitoring and ViewLog playback on two monitors
- Screen pop-ups on motion or alarm activation
- Advanced Motion Detection
- Digital watermark
- Video lost detection
- On screen video loss message
- Video de-interlace filter
- E-map
- Windows lockup
- Image size indicator
- Synchronized video an audio
- Backlight compensation
- Video scaling filter
- AVI repair utility
- System log
- Support 1,000 accounts for logins and passwords
- Multi level passwords protection
- Use Microsoft Remote Desktop to control another GV-System
- Twin DVR
- Embedded I/O devices control
- Embedded PTZ control panel
- Support dynamic IP address
- Password Expiration Management
- System Idle Protection
- Spot Monitor Controller
- POS Live Viewer
- Photo-ID Integration (GV-WT)
- Authentication Server
- Colorful Mode to enhance video color

Intelligent Recording & Playback

- Recording trigger by round-the-clock, motion detection, alarm and schedule
- Adjustable recording quality and frame rate for each camera
- Pre-motion and post-motion recording
- Supports Windows XP / Vista / 7 / Server 2008 burning software Instant Playback
- Time Merge From Different Clips
- Splitting Files for Backup onto Multiple Discs
- Extracting Frames from a Video Clip During Playback
- Support for Daylight Saving Time (DST)
- Playback of GPS tracks from GV-Compact DVR and GV-Video Server

Audio

- 32 channels of live audio streaming and recording

Video Analytics

- Advanced Motion Detection (**)
- Face Detection
- Advanced Scene Change Detection (**)
- Advanced Unattended Object Detection (**)
- Advanced Missing Object Detection (**)
- Privacy Mask
- Enhanced Object Counting
- Intrusion Alarm
- People Counting
- Panorama View (**)
- Video Stabilization (**)
- Defog Function (**)
- Crowd Detection (**)
- Digital Object Tracking (**)
- Face Count (**)

Note: The feature with (**) mark needs to work with an AVP dongle which you need to purchase additionally.

Smart Search & Ease Playback

- Timeline Search
- Face Detection for Object Index
- Object search
- Index search
- Object Index
- Thumbnail browse for ease of search for specific frames within video footage
- Export a video footage within a specified time range
- Synchronized audio and video for both live and playback modes
- Continues playback of set frames A to B
- EXE format export, playable with any third-party players
- AVI format export in multiple screens mode
- DVD format export for Hybrid Card format files
- Option for recycling the input-triggered events (Never recycle function)

Notification

- E-mail notification with attached video images on motion and alarm activation
- E-mail or telephone notification on video lost or I/O error
- Directs PTZ dome to a preset location on motion and alarm activation
- SMS alerts available in Main System, Center V2 and Vital Sign Monitor
- Alarms on objects that pass between predefined regions

WebCam - Remote Surveillance

- POS Live View via IE Browser
- 3G Mobile Phone Support (3GPP)
- SSL Encrypt Connection Support
- UPnP™ Support
- Control Panel on Single View to Provide Instant Information and Operation
- Support PIP, PAP, Defogging Live Videos, and Video Stabilizer in Single View
- Event List Query
- Download Center
- Drag-and-Drop Support for Camera, PTZ and I/O Icons on the 2 Windows of MPEG4 Encoder Viewer
- Remote E-Map
- Pop-up Live Images upon Input Trigger in Remote E-Map
- Multicast
- Audio Broadcast

Advanced I/O Control

- Visual Automation
- Virtual I/O Control
- One-Click I/O Status Control
- Multiple I/O Types Selection
- Latch Trigger Feature

Mobile Phone Application

- Support 4, 9, and 16 screen divisions
- PTZ control via directional buttons
- Channel switch via middle button
- Support for Nokia S60 3rd Edition

Profile Management

- Selectable GUI Skin
- Custom Start-Up Splash Screen, Non-Active Video & Video Lost Screen
- Customizing System Features
- Easy Configuration Backup & Restore
- Custom DVR Setting's Template

Remote Monitoring Software

- WebCam
- Remote Playback System
- G-View for WinCE PDA
- I-Mode
- BlackBerry phones

IT Technology

- RSA Network Security
- Authentication Server: central control of password settings in local GV-DVRs

Central Monitoring Station (CMS)

- Center V2
- Vital Sign Monitor
- Dispatch Server
- Control Center
- GV-GIS (Geographic Information System)

Integration Solution

- Point-Of-Sale
- EAS Integration
- Access Control
- Megapixel Integration
- Licence Plate Recognition
- Central Monitoring Station

VERSION 8.5 GV-NVR Specifications

NVR		
Model	**GV-NVR (GV)**	**GV-NVR**
Video Input	32	1, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
Audio Input	32	1, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
Video Codec	MJPEG, MPEG4, H.264	
Audio Codec	AAC (16 kHz / 16 bit)	
Video Resolution	From CIF to 5 Mega pixel	
Networking	TCP / IP, LAN, WAN, Internet, Modem Dial-up, Modem-to-Modem, ISDN	
Backup Device	HDD, NAS, CD-R / R-W, DVD+R / +RW, DVD+R (DL), ZIP, JAZ, Blu-ray, GV-Storage System	
Mobile Phone / PDA	Symbian S60 (2.X~3.X), Windows Mobile (5.0~6.1), Blackberry (4.2.1~4.7), iPhone (2.2~3.1)	
Language	Arabic / Bulgarian / Czech / Danish / Dutch / English / Finnish / French / German / Greek / Hebrew / Hungarian / Indonesian / Italian /Japanese / Lithuanian / Norwegian / Persian / Polish / Portuguese / Romanian / Russian / Serbian / Simplified Chinese / Slovakian / Slovenian / Spanish / Swedish / Thai / Traditional Chinese / Turkish	

Minimum System Requirements					
		Up to 4 Channels	**Up to 8 Channels**	**Up to 16 Channels**	**Up to 32 Channels**
OS	32-bit	Windows XP, Windows Vista, Windows 7, Windows Server 2008			
	64-bit	Windows 7, Server 2008			
CPU		Core 2 Duo, 2.4 GHz	Core 2 Quad, 2.4 GHz		Core i7, 2.8 GHz
RAM		2 GB Dual Channels / 4 GB Dual Channels (see Note1) / 8 GB Dual Channels (see Note 2)			
VGA		AGP or PCI-Express, 800 x 600 (1280 x 1024 recommended), 32-bit color			

Note :

1. For the users of 32-bit Windows, the memory limit of GV-NVR is 1.7 GB with 2 GB RAM. For the users of 64-bit Windows, the memory limit of GV-NVR is 1.7 GB with 2 GB RAM and 3 GB with 4 GB RAM. If the high memory issue persists, the GV-NVR will become unstable.
2. To apply GPU decoding, the recommended RAM for 64-bit OS is 8 GB or more, for 32-bit OS is 4 GB.

Frame rate limit in a single hard disk

Since the size of transmitted data from IP cameras may be quite large and reach beyond the transfer rate of a hard disk, you should note the total of recording frame rates that you can assign to a single hard disk, as listed below:

Video resolution	MJPEG		H.264		MPEG4	
	Frame Rate	Bit Rate	Frame Rate	Frame Rate	Bit Rate	Frame Rate
2560x1920 (5M)	30 fps	102.26Mbit/s	240 fps	21.24Mbit/s	-	-
2560x1600 (4M)	60 fps	73.49Mbit/s	240 fps	15.28Mbit/s	-	-
2048x1536 (3M)	60 fps	64.73Mbit/s	480 fps	10.52Mbit/s	-	-
1600x1200 (2M)	120 fps	41.16Mbit/s	480 fps	9.16Mbit/s	-	-
1280x960 (1.3M)	200 fps	30.04Mbit/s	480 fps	5.77Mbit/s	480 fps	6.30Mbit/s
640x480 (VGA)	480 fps	11.42Mbit/s	640 fps	2.54Mbit/s	640 fps	3.27Mbit/s
320x240 (CIF)	480 fps	5.16Mbit/s	640 fps	0.75Mbit/s	640 fps	1.03Mbit/s

Note: The above data was determined using the bit rate listed above and hard disks with average R/W speed above 80MB/s.

The frame rate limit is based on the resolution of video sources. The higher video resolutions, the lower frame rates you can assign to a single hard disk. In other words, the higher frame rates you wish to record, the more hard disks you need to install. For the information of recording frame rates, you may consult the user's manual of the IP camera that you wish to connect to.

GV-DONGLE POLICY

Both GV-Hybrid and GV-NVR come with **32 free IP channels when connecting to GeoVision IP video devices**.

However, to perform third-party IP video devices with the GV-Hybrid or GV-NVR, you will need a NVR dongle to run the GV-System. There are two types of dongles: **internal NVR dongle** with hardware watchdog function and **external NVR dongle**. The dongle options include 1, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32 IP channels.